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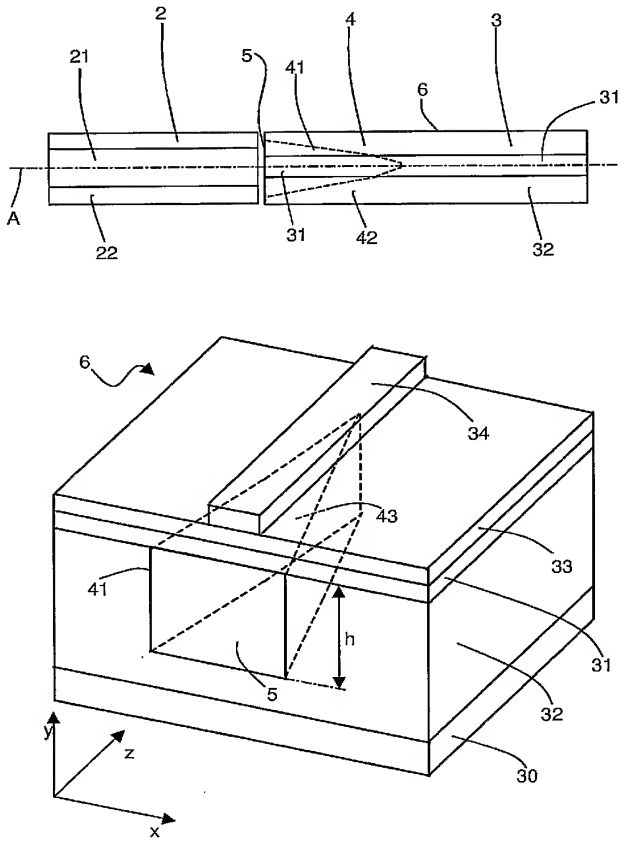
(54) Title: OPTICAL COUPLING DEVICE



(57) Abstract: An optical mode converter comprises a coupling waveguide (4) and a receiving waveguide (3). The coupling waveguide has at an input end a first effective refractive index n_{1eff} and includes a tapered core (41) of a substantially constant refractive index n_1 with a substantially square cross section at the input end (5), having a size that tapers down moving away from the input end. The coupling waveguide has also a cladding (42) at least partially surrounding the tapered core. The receiving waveguide has a second effective refractive index n_{2eff} at an output end and comprises a core (31) of a substantially constant refractive index n_2, greater than the refractive index n_1 of the tapered core (41) of the coupling waveguide, and a cladding (32) at least partially surrounding the core. A side surface (43) of the tapered core of the coupling waveguide (4) is optically in contact, in a coupling portion, with the receiving waveguide (3) so as to allow optical coupling between the coupling waveguide (4) and the receiving waveguide (3). The refractive index n_1 of the tapered core of the coupling waveguide (4) is selected so that the first effective refractive index n_{1eff} and the second effective refractive index n_{2eff} differ from each other in absolute value less than 30% of the difference (n_2 - n_{2eff}) between the core refractive index and the effective refractive index of the receiving waveguide (3). A method for fabricating an optical tapered waveguide is also disclosed.

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